ENVIRONMENTAL-PRODUCT DECLARATION

as per ISO 14025 and EN 15804+A2

Owner of the Declaration dormakaba International Holding GmbH

Publisher Institut Bauen und Umwelt e.V. (IBU)

Programme holder Institut Bauen und Umwelt e.V. (IBU)

Declaration number EPD-DOR-20220039-CBA1-EN

Issue date 04.05.2022 Valid to 03.05.2027

Precision 2000 Series dormakaba



www.ibu-epd.com | https://epd-online.com







General Information

Precision 2000 Series dormakaba Programme holder Owner of the declaration dormakaba International Holding GmbH IBU - Institut Bauen und Umwelt e.V. Hegelplatz 1 DORMA Platz 1 10117 Berlin 58256 Ennepetal Germany Germany **Declaration number** Declared product / declared unit EPD-DOR-20220039-CBA1-EN 1 exit device (1 piece) of the Precision 2000 Series. This declaration is based on the product category rules: Building Hardware products, 01.08.2021 This Environmental Product Declaration refers to a specific exit device (PCR checked and approved by the SVR) manufactured by dormakaba. The production site is located in Indianapolis Issue date The data represents the year 2020. 04.05.2022 The owner of the declaration shall be liable for the underlying information and evidence; the IBU shall not be liable with respect to manufacturer information, life cycle assessment data and evidences. Valid to 03.05.2027 The EPD was created according to the specifications of EN 15804+A2. In the following, the standard will be simplified as EN 15804 bezeichnet. Verification The standard EN 15804 serves as the core PCR Independent verification of the declaration and data according to ISO 14025:2011 internally X externally Dipl.-Ing Hans Peters (chairman of Institut Bauen und Umwelt e.V.)

Dr. Alexander Röder

(Managing Director Institut Bauen und Umwelt e.V.)

Dr.-Ing. Wolfram Trinius, (Independent verifier)



Product

Product description/Product definition

No other exit device offers the level of functionality and dependability as this Grade 1, heavy-duty exit device. Built with fewer components and in various door configurations, the Precision 2000 provides smoother operation with minimal need for maintenance. The Precision 2000's durable construction allows it to withstand high traffic and high use on a regular basis, making it particularly attractive for healthcare and education buildings. These combined benefits give it a longer life span and a lower overall cost of ownership. For the use and application of the product the respective national provisions at the place of use apply. The standards which can be applied are the following:

- ANSI/BHMA A156.3 Grade 1
- · ANSI A117.1 Accessibility Code (ADA) compliant
- UL/cUL listed
- · Florida Building Code compliant for hurricanes
- · Miami-Dade County compliant for hurricanes
- California State Fire Marshal (California Title 24) compliant
- California State Fire Marshal compliant for fire door
- · BAA and TAA compliant
- · Illinois Accessibility Standard compliant

Application

The Precision 2000 Series can be used for following building types:

- · Learning and higher education
- · Healthcare
- Government
- · Retail and commercial
- Multifamily
- · Hospitality

Technical Data

The exit device has following technical properties:

PRECISION APEX	2000 Specifications					
Certifications	BHMA A156.3 Grade 1 Listed ANSI A117.1 Accessibility Code (ADA) compilant UU-U.A. 10C.3-hour Fire Listed UU-U.A. 305 Listed Florida Bulafing Code compilant for humicanes Massi-Code County compilant for humicanes Californa State Fire Marshal (Californa State Fire Marshal (Californa Tate 24) compilant	California State Fire Marshal compliant for fire door BAA and TAA compliant Binois Accessibility Standard compliant ML-STD 810G sections 509.6 Salt Spray, 521.3 long and Freezing Rain, 510.6 Blowing Dust Test				
Materials	Exit device body: heavy-duty solid brass, Chassis: investment cast steel, zinc dichro Chassis cover: stainless steel, brass or bro Latchbolt: stainless steel, deadlocking, 3/	omated nate				
Door Dimensions	Thickness: 1 3/4" – 2 1/4" standard Height: 6'8" – 10" (5/40) Width: 2" – 4" (application dependent)					
Strikes	\$300: investment cast stainless steel, black powder coated \$988: optional strike for use on aluminum door applications \$458: optional strike for use on mullion applications					
Device Types	Wide Rim Narrow Rim Concealed Vertical Rod Narrow Stile Concealed Vertical Rod	Surface Vertical Rod Wood Door Concealed Vertical Rod Mortise				
Electrified Options	C: Pre-Terminated Quick Connect Plug DE: Delayed Egress E: Electric Louis, Principal ELE: Electric Latch Retraction MLR: Motorized Latch Retraction IS: Latchboth Monitoring Switch Q: Wireless Access Management System	TS: Touchbar Monitoring Switch WTS: Weatherized Touchbar Switch ALK: Battery Powered Alarm AUV: Hardwired Alarm DS: Door Position Switch WAUV: Weatherized Alarm				
Trim and Lever Styles	Vandal Resistant Lever-no lever reset reg Knob Trims Pull Trims A, B, C or D lever styles, standard 20 available decorative lever styles	uired				
Finishes	605: Polished Brass, Clear Coated 606: Satin Brass, Clear Coated 612: Satin Bronze, Clear Coated 613: Dark Oxidized Satin Bronze 622: Powder Coated Black 625: Polished Chromium Plated	626W. Satin Chrome, Weatherized 628: Satin Aluminum, Clear Anodized 630: Satin Stainless Steel 690: Dark Bronze UttraShield™ antimicrobial coating available except 622 and 690 finishes.				
Warranties	5-year mechanical	1-year electrical				

Please

list the Technical Data according to the List in the chapter "Product group specific calculation rules"

Example:

Technical

Data for Locking Cylinders acc. to the classification in EN 1303: Performance data of the product with respect to its characteristics in accordance with the relevant technical provision which can be applied are mentioned above.

Base materials/Ancillary materials

Name	Value	Unit
Stainless steel	43	%
Steel	30	%
Brass	14	%
Paper	6	%
Electronics	5	%
Zinc	2	%
Other	<1	%

The product/s include/s partial articles which contain substances listed in the Candidate List of *REACH* Regulation 1907/2006/EC (date: 17.01.2022) exceeding 0.1 percentage by mass: yes

 Lead (Pb): 7439-92-1 (CAS-No.) is included in some of the alloys used. The concentration of lead in each individual alloy does not exceed 4.0% (by mass).

The Candidate List can be found on the ECHA website address: https://echa.europa.eu/de/home.



Environment and health during use

Reference service life

The reference service life of the Precision 2000 Series exit device depends on the traffic pattern and degree of

usage of the door. These exits are rated to ANSI Grade 1, meaning they

are designed to withstand a minimum of 500,000 cycles. However, these exits have been independently tested to surpass 10,000,000 cycles.

LCA: Calculation rules

Declared Unit

The declared unit is 1 piece of the product: Precision 2000 Series.

Declared unit

Name	Value	Unit
Declared unit	1	piece/product
Mass of declared Product	12.04	kg

For IBU core EPDs (where clause 3.6 is part of the EPD): for average EPDs, an estimate of the robustness of the LCA values must be made, e.g. concerning variability of the production process, geographical representativeness and the influence of background data and preliminary products compared to the environmental impacts caused by actual production.

System boundary

The type of EPD is: cradle to gate with options, modules C1–C4, and module D (A1–A3 + C + D and additional modules: A4 + A5)

Production - Module A1-A3

The product stage includes:

- A1, raw material extraction, processing and mechanical treatments, processing of secondary material input (e.g. recycling processes),
- A2, transport to the manufacturer,
- A3, manufacturing and assembly including provision of all materials, products and energy, as well as waste processing up to the end-of waste state.

Construction stage - Modules A4-A5

The construction process stage includes:

- A4. transport to the building site:
- A5, installation into the building;

including provision of all materials, products and energy, as well as waste processing up to the end-of waste state or disposal of final residues during the construction process stage.

End-of-life stage- Modules C1-C4 and D

The end-of-life stage includes:

- C1, de-construction, demolition:
- C2, transport to waste processing;
- C3, waste processing for reuse, recovery and/or recycling;
- C4, disposal;

including provision and all transport, provision of all materials, products and related energy and water use. Module D (Benefits and loads beyond the system boundary) includes:

— D, recycling potentials, expressed as net impacts and benefits.

Geographic Representativeness

Land or region, in which the declared product system is manufactured, used or handled at the end of the product's lifespan: Unbekannt

Comparability

Basically, a comparison or an evaluation of EPD data is only possible if all the data sets to be compared were created according to *EN 15804* and the building context, respectively the product-specific characteristics of performance, are taken into account.

LCA: Scenarios and additional technical information

Characteristic product properties Information on biogenic carbon

The biogenic carbon content quantifies the amount of biogenic carbon in a construction product leaving the factory gate, and it shall be separately declared for the product and for any accompanying packaging.

If the total mass of biogenic carbon containing materials is less than 5 % of the total mass of the product and accompanying packaging, the declaration of biogenic carbon content may be omitted. The mass of packaging containing biogenic carbon shall always be declared.

Note: 1 kg of biogenic carbon is equivalent to 44/12 kg of CO2.

Information on describing the biogenic Carbon Content at factory gate

Name	Value	Unit
Biogenic carbon content in product	0.01	kg C
Biogenic carbon content in accompanying packaging	0.09	kg C

Additional technical information for the declared modules.

Transport to the building site (A4)

Name	Value	Unit
Litres of fuel per 1 kg (truck)	0.00276	l/100km
Transport distance (truck)	4300	km
Capacity utilisation (including empty runs) average	55	%
Transport distance (ship)	27000	km

Installation into the building (A5)

Name	Value	Unit
Output substances following waste treatment on site (packaging)	0.69	kg

In case a **reference service life** according to applicable ISO standards is declared then the assumptions and in-use conditions underlying the determined RSL shall be declared. In addition, it shall be stated that the RSL applies for the reference conditions only.



The same holds for a service life declared by the manufacturer. Corresponding information related to in-use conditions needs not be provided if a service life taken from the list on service life by BNB is declared.

Operational energy use (B6)

Name	Value	Unit
Electricity consumption for 1 year	62,41	kWh
Power consumpiton "on mode"	570	W
Hours per day in use "on mode"	0,3	h
Power consumption "standby mode"	0	W
Hours per day in use "standby mode"	23,7	h

End of life (C1-C4)

C1: The product dismantling from the building is done manually without environmental burden.

C2: Transport to waste treatment at end of life is 50km.

Name	Value	Unit
Collected separately waste type	11.3	kg
Recycling	10.7	kg
Energy recovery	0.012	kg
Final deposition	0,609	kg

Reuse, recovery and/or recycling potentials (D), relevant scenario information

Name	Value	Unit

Collection rate is 100%.



LCA: Results

Disclaimer:

EP-freshwater: This indicator has been calculated as "kg P eq" as required in the characterization model (EUTREND model, Struijs et al., 2009b, as implemented in ReCiPe; http://eplca.jrc.ec.europa.eu/LCDN/developerEF.xhtml)

DESCRIPTION OF THE SYSTEM BOUNDARY (X = INCLUDED IN LCA; ND = MODULE OR INDICATOR NOT DECLARED; MNR = MODULE NOT RELEVANT)

MODO	LE NOI	INLLL	VAINI)													
PRODUCT STAGE			CONST PROC STA	CESS	ON	USE STAGE					ENI	O OF LI	FE STA	ΛGE	BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARIE S	
Raw material supply	Transport	Manufacturing	Transport from the gate to the site	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse- Recovery- Recycling- potential
A1	A2	A3	A4	A5	B1	B2	В3	B4	B5	В6	B7	C1	C2	C3	C4	D
X	Х	Х	Х	Х	MND	MND	MNR	MNR	MNR	Х	MND	Х	Х	Х	Х	Х

RESULTS OF T	HE LCA - EN	IVIRONME	NTAL IMPA	CT accordii	ng to EN 15	804+A2: 1	exit device			
Parameter	Unit	A1-A3	A4	A5	В6	C1	C2	C3	C4	D
GWP-total	kg CO ₂ eq	5.15E+01	1.97E+00	9.89E-01	1.75E+02	0	4.9E-02	3.2E-02	9E-03	-2.77E+01
GWP-fossil	kg CO ₂ eq	5.25E+01	1.9E+00	2.5E-02	1.75E+02	0	4.7E-02	3.2E-02	9E-03	-2.78E+01
GWP-biogenic	kg CO ₂ eq	-1.03E+00	7E-02	9.64E-01	3.8E-02	0	2E-03	7.39E-07	3.16E-05	1.09E-01
GWP-luluc	kg CO ₂ eq	7.61E-02	4.4E-05	1.63E-05	5.3E-02	0	1.12E-06	1.79E-06	2.66E-05	-4.6E-02
ODP	kg CFC11 eq	2.29E-11	1.97E-16	1.78E-16	6.17E-13	0	4.98E-18	1.6E-17	3.42E-17	-3.41E-13
AP	mol H ⁺ eq	2.83E-01	1.6E-02	2.77E-04	2.84E-01	0	4.73E-05	5.65E-06	6.62E-05	-1.14E-01
EP-freshwater	kg P eq	8.49E-05	4.12E-07	3.49E-08	9.57E-05	0	1.01E-08	2.55E-09	1.59E-08	-2.43E-05
EP-marine	kg N eq	4.5E-02	4E-03	1E-04	6.1E-02	0	1.5E-05	1.27E-06	1.71E-05	-1.8E-02
EP-terrestrial	mol N eq	4.79E-01	4.7E-02	1E-03	6.52E-01	0	1.67E-04	2.57E-05	1.87E-04	-1.96E-01
POCP	kg NMVOC eq	1.33E-01	1.2E-02	2.65E-04	1.73E-01	0	4.25E-05	3.52E-06	5.16E-05	-5.6E-02
ADPE	kg Sb eq	3.13E-03	5.54E-08	2.82E-09	3.49E-05	0	1.42E-09	2.19E-10	8.29E-10	-8.62E-04
ADPF	MJ	6.58E+02	2.62E+01	3.12E-01	2.84E+03	0	6.7E-01	1.5E-02	1.21E-01	-3.25E+02
WDP	m ³ world eq deprived	1.51E+01	4E-03	1.23E-01	3.39E+01	0	9.25E-05	3E-03	9.68E-04	-9.89E+00

GWP = Global warming potential; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential of land and water; EP = Eutrophication potential; POCP = Formation potential of tropospheric ozone photochemical oxidants; ADPE = Abiotic depletion potential for non-fossil resources; ADPF = Abiotic depletion potential for fossil resources; WDP = Water (user) deprivation potential)

RESULTS OF THE LCA - INDICATORS TO DESCRIBE RESOURCE USE according to EN 15804+A2: 1 exit device											
Parameter	Unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D	
PERE	MJ	1.36E+02	8.3E-02	8.43E+00	4.49E+02	0	2E-03	3.6E-01	1.6E-02	-5.92E+01	
PERM	MJ	8.73E+00	0	-8.37E+00	0	0	0	-3.56E-01	0	0	
PERT	MJ	1.45E+02	8.3E-02	5.7E-02	4.49E+02	0	2E-03	4E-03	1.6E-02	-5.92E+01	
PENRE	MJ	6.59E+02	2.62E+01	3.12E-01	2.84E+03	0	6.7E-01	3.7E-01	1.21E-01	-3.26E+02	
PENRM	MJ	3.55E-01	0	0	0	0	0	-3.55E-01	0	0	
PENRT	MJ	6.59E+02	2.62E+01	3.12E-01	2.84E+03	0	6.7E-01	1.5E-02	1.21E-01	-3.26E+02	
SM	kg	5.53E+00	0	0	0	0	0	0	0	0	
RSF	MJ	0	0	0	0	0	0	0	0	0	
NRSF	MJ	0	0	0	0	0	0	0	0	0	
FW	m ³	5.46E-01	1.5E-04	3E-03	1.04E+00	0	3.79E-06	7.76E-05	3.06E-05	-3.84E-01	

PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water

RESULTS OF THE LCA – WASTE CATEGORIES AND OUTPUT FLOWS according to EN 15804+A2: 1 exit device											
Parameter	Unit	A1-A3	A4	A5	В6	C1	C2	C3	C4	D	
HWD	kg	3.04E-06	2.55E-09	4.6E-10	1.09E-06	0	6.5E-11	5.61E-11	1.85E-09	-4.77E-06	
NHWD	kg	4.09E+00	3E-03	3.1E-02	8.81E-01	0	6.85E-05	3E-03	6.09E-01	-1.84E+00	
RWD	kg	1.31E-02	2.83E-05	1.64E-05	2.53E-01	0	7.19E-07	5.46E-07	1.38E-06	-2E-03	



CRU	kg	0	0	0	0	0	0	0	0	0
MFR	kg	0	0	0	0	0	0	1.07E+01	0	0
MER	kg	0	0	0	0	0	0	0	0	0
EEE	MJ	0	0	1.5E+00	0	0	0	0	0	0
EET	MJ	0	0	2.71E+00	0	0	0	0	0	0

HWD = Hazardous waste disposed; NHWD = Non-hazardous waste disposed; RWD = Radioactive waste disposed; CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electrical energy; EET = Exported thermal energy

RESULTS OF THE LCA – additional impact categories according to EN 15804+A2-optional:

1 OAL GOVICO										
Parameter	Unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
РМ	Disease incidence	4.31E-06	2.56E-07	1.53E-09	2.54E-06	0	2.48E-10	7.21E-11	8.2E-10	-2.25E-06
IR	kBq U235 eq	1.49E+00	4E-03	3E-03	2.09E+01	0	1.03E-04	4.92E-05	1.42E-04	-2.1E-01
ETP-fw	CTUe	3.35E+02	1.85E+01	1.48E-01	8.46E+02	0	4.75E-01	6E-03	6.9E-02	-1.52E+02
HTP-c	CTUh	7.39E-06	3.49E-10	7.84E-12	1.82E-08	0	8.93E-12	4.78E-13	1.03E-11	-4.39E-08
HTP-nc	CTUh	1E-06	1.52E-08	3.4E-10	6.88E-07	0	3.82E-10	4.84E-11	1.13E-09	2.05E-07
SQP	SQP	2.48E+02	6.8E-02	8.3E-02	2.59E+02	0	2E-03	4E-03	2.5E-02	-4.01E+01

PM = Potential incidence of disease due to PM emissions; IR = Potential Human exposure efficiency relative to U235; ETP-fw = Potential comparative Toxic Unit for ecosystems; HTP-c = Potential comparative Toxic Unit for humans (cancerogenic); HTP-nc = Potential comparative Toxic Unit for humans (not cancerogenic); SQP = Potential soil quality index

Disclaimer 1 – for the indicator "Potential Human exposure efficiency relative to U235". This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.

Disclaimer 2 – for the indicators "abiotic depletion potential for non-fossil resources", "abiotic depletion potential for fossil resources", "water (user) deprivation potential, deprivation-weighted water consumption", "potential comparative toxic unit for ecosystems", "potential comparative toxic unit for humans – cancerogenic", "Potential comparative toxic unit for humans – not cancerogenic", "potential soil quality index". The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.

References

Standards

EN 15804

EN 15804:2012+A1 2013, Sustainability of construction works — Environmental Product Declarations — Core rules for the product category of construction products.

EN 15804

EN 15804:2012+A2:2019+AC:2021, Sustainability of construction works — Environmental Product Declarations — Core rules for the product category of construction products.

ISO 14025

EN ISO 14025:2011, Environmental labels and declarations — Type III environmental declarations — Principles and procedures.

Further References

Title of the software/database

Title of the software/database. Addition to the title, version. Place: Publisher, Date of publication [Access on access date].

IBU 2021

Institut Bauen und Umwelt e.V.: General Instructions for the EPD programme of Institut Bauen und Umwelt e.V., Version 2.0, Berlin: Institut Bauen und Umwelt e.V., 2021 www.ibu-epd.com

ANSI/BHMA A156.3

ANSI/BHMA A156.3-2014: AMERICAN NATIONAL STANDARD

FOR EXIT DEVICES.

ANSI A117.1

ANSI A117.1-2017: Accessible and Usable Buildings.

EN 15804

ΕN

15804:2019+A2, Sustainability of

construction works — Environmental Product

Declarations — Core rules for the product category of

construction products.

REACH

Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), Regulation (EC) No 1907/2006.



Further References

BAA

Buy American Act,

https://www.gao.gov/products/105519.

California State Fire Marshal

https://osfm.fire.ca.gov/.

Florida Building Code

https://floridabuilding.org/c/default.aspx.

IBU

Institut Bauen und Umwelt e.V.: General

Instructions for the EPDs programme of Institut

Bauen und Umwelt e.V. Version 2.0., Berlin: Institut

Bauen und Umwelt e.V., 2021. www.ibu-epd.com.

documentation

GaBi life cycle

inventory data documentation

(https://www.gabi-software.com/support/gabi/gabidatabase-

2020-lci-documentation/).

LCA-tool dormakaba

LCA-tool, IBU-DOR-202104-LT1-EN.

Developed by Sphera Solutions GmbH

Miami-Dade County Code

https://www.miamidade.gov/cob/ordinances-enacted-by-bcc.asp.

PCR Part A

Illinois Accessibility Code

https://www2.illinois.gov/cdb/business/codes/IllinoisAccessibilityCode/PagesRtexfaurterassputs on the Project Re-port

PCR – Part A: Calculation Rules for the Life Cycle Assessment

according to EN 15804+A2:2019, Version 1.0, 2020, Institut Bauen und Umwelt e.V., www.ibu-epd.com.

GaBi

Sphera Solutions GmbH

Gabi Software System and Database for Life Cycle

Engineering 1992-2020

Version 10.0.0.71

University of Stuttgart

Leinfelden-Echterdingen

PCR Part B

PCR - Part B: Requirements on the EPD for Building

Hardware product, version 1.2, Institut Bauen und

Umwelt e.V., www.ibu-epd.com, 2017.

TAA

Trade Agreements Act,

https://vsc.gsa.gov/administration/compDetails.cfm.

GaBi ts



UL

Underwriters Laboratories,

https://www.ul.com/.

ULC

Underwriters Laboratories of Canada,

https://canada.ul.com/.





Publisher

Institut Bauen und Umwelt e.V. Hegelplatz 1 10117 Berlin Germany +49 (0)30 3087748- 0 info@ibu-epd.com www.ibu-epd.com



Programme holder

Institut Bauen und Umwelt e.V. Hegelplatz 1 10117 Berlin Germany +49 (0)30 3087748- 0 info@ibu-epd.com www.ibu-epd.com



Author of the Life Cycle Assessment

Sphera Solutions GmbH Hauptstraße 111- 113 70771 Leinfelden-Echterdingen Germany +49 711 341817-0 info@sphera.com www.sphera.com



Owner of the Declaration

dormakaba International Holding GmbH DORMA Platz 1 58256 Ennepetal Germany +49 2333 793-0 info.de@dormakaba.com www.dormakaba.com